MICRO-AUCTION ON TELEVISION FOR THE

SELECTION OF COMMERCIALS

FIELD OF THE INVENTION

The invention relates to a method and system for providing a micro-auction to determine which of a selection of commercials will be presented to the television viewer during a given time slot. Specifically, the present invention is directed to a method and

5 system for awarding a commercial time spot to the commercial for which the highest monetary bid is placed by a representative agent.

BACKGROUND OF THE INVENTION

Television and radio commercial advertisements and other similar promotional or

10 broadcasting "spots", hereinafter referred to as "commercials", are currently prepared by an advertising agency or similar organization. The commercial is then inserted into the broadcast stream by a broadcaster of a program and presented to the viewer. Only a single commercial is assigned to each time slot on a given channel, so the actual television or radio receiver/monitor present the single broadcast commercial to the viewer, without

15 consideration of any local individual factors.

This process of bringing commercial advertisements to the viewer includes several limitations.

First, the viewer is only presented with the commercial that is broadcast. There is no input of criteria specific to the individual viewer. This limitation often leads to viewers

20 who are not interested in the commercial or the products/services being advertised, which means that advertiser investment in purchasing the time slots is wasted.

Therefore, it would be beneficial to allow a variety of competing commercials to vie for a given time slot, and to provide more individualized criteria for selection of which commercial to award a given time slot to. This would serve to alleviate the problem of advertisers having to purchase an entire geographical area to reach a more limited group of

5   potentially interested viewers.

Second, the broadcast station (or cable station, or Internet broadband channel, etc.) is the only source for commercials. Since the advent of television and the earlier advent of radio, the source of the broadcast program has always been the only source of the commercial advertising to be presented. This requires the broadcaster to find advertisers or

10   other sponsors for the available time slots, and, additionally, limits the broadcaster to only one potential advertiser per time slot.

Thus, there is a benefit to allow commercials to originate from a source or sources other than the broadcast station. This would potentially allow the broadcaster to focus more on program content quality and less on finding advertisers for available time slots.

15   Additionally, by providing more than one source from which to broadcast commercials for the same time slot, competition for commercial time slots could be increased -- thus, potentially increasing revenues for program providers.

Third, conventionally there is a one to one relationship between the broadcast commercial and the presented commercial. This relationship has been a common practice

20   for some time, but affords no flexibility at the viewer's end for customization of the commercial to be displayed. It often results in the viewer being presented with a commercial whose contents are of no interest to the viewer.

Therefore, there is a benefit to enable the broadcast of multiple commercials to be potentially viewed for a given commercial time slot. If a selection criteria additionally

25   considers the viewer's habits when determining which of several commercials will be

shown, the likelihood that a given viewer would be interested in the commercial selected for display would be enhanced.

Fourth, the identification and selection of the target audience of the commercial is conventionally determined by the broadcast station. Typically, the advertiser may select a program and a geographical region in which to show their commercial. This traditional method of selecting where and when a commercial is run does not offer the advertiser the ability to target individuals by criteria other than the program and the geographical location.

Thus, there is a desire for a method and system for selecting time slots and target audiences in which to run a commercial, so as to allow the advertiser to reach individuals using selection criteria other than the program selected for viewing and the geographical location of the viewer. As an example, it would be beneficial if the advertiser could know information regarding a viewer's program selection and viewing habits, then use this information to target viewers on an individual basis.

Fifth, the selection of the time slots for commercials by the advertiser is usually performed at the beginning of the viewing season. This is normally well in advance of the viewing experience. This advance scheduling of time slots has been a common practice for some time, but does not allow for factors that arise after the schedule is made to play any role in the decision of when and where to run an advertiser's commercial.

Therefore, there is a need to provide an advertiser with the ability to select the time slot(s) to be purchased on a more dynamic basis, which may be weekly, daily, hourly, or even immediately prior to the time slot(s). The present invention satisfies these needs.

SUMMARY OF THE INVENTION

The purpose and advantages of the present invention will be set forth in and apparent from the description that follows, as well as will be learned by practice of the invention. Additional advantages of the invention will be realized and attained by the methods and systems particularly pointed out in the written description and claims hereof, as well as from the appended drawings.

To achieve these and other advantages and in accordance with the purpose of the invention, as embodied and broadly described, the invention includes a method of presenting a commercial in a time slot to a viewer. The method involves providing one or more commercials to a receiver operatively coupled with a display device. Each commercial has an associated agent configured to place a bid for the time slot on behalf of the associated commercial. The time slot is auctioned to the one or more commercials provided to the receiver. Next, the commercial having the agent which placed a winning bid is displayed during the time slot.

In another embodiment, the invention includes a method of presenting a commercial in a time slot to a viewer. The method includes providing one or more commercials to a receiver operatively coupled with a display device. Each commercial has an agent associated with it. Each agent is configured to place a bid for the time slot on behalf of the associated commercial. A profile database may be maintained to store data related to local viewer preferences. This would allow the agent for at least one commercial to access the local viewer preference related data in the profile database and use the accessed local viewer preference related data to determine the bid to be placed for the time slot. The time slot is then auctioned to the one or more commercials provided to the receiver. The commercial whose agent places the winning bid is then displayed on the display device

during the time slot. Information related to the commercial having the agent which placed the winning bid may then be stored in a vault.

The invention also includes a system for presenting a commercial in a time slot to a viewer. The system includes at least one source of one or more commercials. The source provides each commercial and an agent associated therewith. The agent for each commercial is configured to place a bid for the time slot on behalf of the associated commercial. A receiver is operatively coupled with a display device. The receiver is configured to receive each commercial and its associated agent. A processor operatively coupled with the receiver is also provided. The processor is configured to execute instructions encoded by the agent associated with each commercial to determine the bid to be placed for the time slot, and to auction the time slot to the one or more commercials provided to the receiver. Next, the commercial having the agent which placed a winning bid is selected and displayed on the display device during the time slot.

It is understood that both the foregoing general description and the following detailed description are exemplary and are intended to provide further explanation of the invention claimed.

The accompanying drawings, which are incorporated in and constitutes part of this specification, are included to illustrate and provide a further understanding of the method and system of the invention. Together with the description, the drawings serve to explain the principles of the invention.

BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a schematic representation of a system for broadcasting of a program and one or more commercials to compete for one or more time slots, and performing a time slot auction in accordance with a preferred embodiment of the current invention;

FIG. 2 is a flowchart of an auction process in accordance with a preferred embodiment of the current invention; and

FIG. 3 is a detailed flowchart of a representative auction involving multiple bidders in accordance with a preferred embodiment of the current invention;

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DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The following description is presented to enable any person of ordinary skill in the art to make and use the present invention. Various modifications to the preferred embodiment will be readily apparent to those of ordinary skill in the art, and the disclosure

10   set forth herein may be applicable to other embodiments and applications without departing from the spirit and scope of the present invention and the claims hereto appended. Thus, the present invention is not intended to be limited to the embodiments described, but is to be accorded the broadest scope consistent with the disclosure set forth herein.

In accordance with a preferred embodiment of the invention, a system is provided to

15   broadcast more than one commercial, to compete for a single commercial time slot on a single channel. The individual commercials may be broadcast by any of several methods, including by standard television or radio signal, by cable, or over the Internet. Each commercial may be broadcast at the same or nearly the same time as the program being viewed, or each commercial may be pre-loaded to the viewing device in advance via a prior

20   broadcast if desired and appropriately structured. Also, each commercial has an associated agent which is responsible for the formulation of an actual bid price. The agent may be as simple as a fixed bid price, or a more complex computer software applet. An agent software applet would include an algorithm capable of calculating a desired bid. The agent may be broadcast with the commercial, or it may be sent by a separate route and later

25   associated with the commercial. For example, a commercial sent over the Internet would

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preferably be coupled with and accompanied by its agent. If the same commercial were sent over a standard broadcast transmitter, the agent would preferably be sent by a more loss-less method, such as the Internet, and coupled with the commercial at the receiver. Although not preferred, the agent could be broadcast coupled with the commercial as well.

5   Advantageously, the ability to broadcast multiple commercials and to hold an auction to determine which of the broadcast commercials ultimately is presented at the desired time slot separates the broadcasting of commercials from the actual presentation of commercials. This ability also advantageously allows for different sources for the program to be viewed and the commercials to be presented during commercial time slots. Thus, a

10   program provider or broadcast channel administrator is no longer required to provide the commercials to run in these time slots. Of course, the broadcast channel administrator or program provider may still provide one, several, or no commercials, while still being able to gain from the revenue generated by the auction of the time slots.

Another advantage of the current invention is the competition generated between

15   multiple commercials vying for a single commercial time slot. Particularly, the present invention allows advertisers or sponsors to selectively focus their funds and efforts on actually presenting commercial to a targeted audience, rather than needing to purchase saturation coverage of particular time slots to reach the same desired audience. It also allows for a program provider or broadcast channel administrator to avail themselves of

20   potentially larger per-viewer fees for a particular timeslot, due to the upward pressure on price generally caused by auctions.

The present invention also is advantageous in that the target audience may be selected at the television or radio set, rather than by the broadcaster, and that the auction can be run at any time, such as weekly, daily, hourly, or on a just-in-time basis. Local selection

25   of the target audience allows, as an example, the commercial agent to identify a desired or

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predetermined trait from a profile database maintained locally, and to set the auction bid price from such information. To illustrate, a particular viewer may have actively identified himself as an elderly male, and allowed this information to be stored in a profile database. An advertiser of supplement medicare insurance may therefore choose to increase its bid for a commercial timeslot whenever this viewer is determined to be watching his television or listening to his radio. Alternatively, information used by the agent for setting the auction bidding price may be covertly gathered into a profile database. For example, the television receiver may store a viewer's programming habits into a profile database. Illustratively, it may store the fact that a given viewer usually watches mystery movies (wherein information on program content may be provided online, such as electronic program guides, or by other methods, many of which are well known in the art). An advertiser of mystery novels may then use this information to determine to increase its bid price for an advertising timeslot for this viewer.

Another advantage of the current invention is that a time slot generally can be awarded to the commercial that values the particular viewer and/or time slot most. Thus, revenue for advertising time slots will be based more closely on the maximum commercial value to an advertiser.

FIG. 1 is a schematic depiction of a system for broadcasting a program and one or more commercials to compete for one or more time slots, as well as a time slot auction, in accordance with a preferred embodiment of the current invention. A program is broadcast **1** by any of several methods. For example, a program broadcast **1** may be over the airwaves, such as standard television or radio broadcast. It may also be broadcast, for example, over a cable or satellite network, or even over the Internet. These and other equivalent methodologies for broadcasting are well known in the art. The program broadcast **1**, whatever its form, is received by a receiver **4**. The receiver **4** may be coupled intrinsically

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or extrinsically to a display unit **5**. The receiver **4** and display unit **5** may form one physical

unit, such as is often the case with many known television and radio sets. Another

possibility is that the receiver **4** is mounted in a box attached to a common television set.

Alternatively, the receiver **4** itself is further attached to a satellite dish antenna or to a

5   computer unit with an Internet **3** connection.

The receiver embodied herein **4** may also have access to a profile database **6**, which

itself may be local or remote, and is used to store information about the viewers of the

associated television (or listeners of the associated radio) and/or their viewing (/listening)

habits. For example, a profile database **6** may maintain information for each viewer of the

10   display device, and include information on his/her viewing habits, such as programs

viewed, viewing times, etc. Each viewer may be identified by their inputting identification

information when they commence viewing, or less intrusively, by their use of personalized

remote control equipment, or by other well-known means. Also, the profile database 6

could operate without personal viewer information and unobtrusively maintain only records

15   of which programs were viewed, when they were viewed, etc.

The receiver **4** may optionally operate in conjunction with a vault **7**. The purpose of

the vault is to provide for storage of information about the outcome of each auction. The

vault may be implemented as a component within the receiver **4** itself, or may be a separate

and distinct unit. The vault may upload the rewards stored therein to a billing agent or its

20   equivalent. This upload may take place on a regular basis, such as monthly, weekly, or

even daily. The billing service would take care of transferring the reward from the

commercial provider's account.

In operation, the receiver **4** will receive program content broadcast as described

above. The receiver will also receive one or more commercials and their agents by similar

25   broadcast means **2**, or even over the Internet **3**. The commercials and their agents may be

broadcast at or near the same time as the broadcast of the program, or may be broadcast prior to the program and stored at the receiver or a storage device associated with the receiver. Some commercials may be broadcast using one broadcast method, such as the method used for broadcast of the associated program, while others may use a broadcast

5   method different from that of the program broadcast. Also, it is within the scope of this invention that agents may be sent by a different method and at a different time than their associated commercials. This situation might occur, for example, when a commercial is broadcast by a transmission antenna in standard television format, which includes the risk of signal loss and static interference. It therefore might be more desirable for an agent that

10   consists of a complex set of computer instructions to be broadcast over a loss-less connection, such as an Internet connection, and mated with its associated commercial at the receiver **4**.

An agent includes the information and/or algorithm for setting the auction bid price for a given commercial time spot. The information associated with an agent may be as

15   simple as a fixed price for bidding, or as complex as an applet which, when invoked, gathers input information from the profile database, the vault, a system clock, an electronic programming guide, or elsewhere, and uses the gathered information to reach a decision as to the auction bid price for the time spot. The agent then conveys its bid to an auction manager, which would preferably reside on the receiver **4**. The auction manager collects all

20   bids, enables the commercial with the winning bid to be viewed on the display **5**, and update the vault **7**, if provided, with the successful bid information. It is also possible that the profile database **6** may be updated at this time to reflect that the commercial was played.

Several different bid formats may be employed. The most common auction is known as the "English" auction, whereby the highest bidder wins. Another type of auction

25   that can be employed with the present invention is the "Vikrey" auction, whereby the

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winner of the auction is the one with the highest bid, but the winner pays the amount of the second highest bid. Yet another auction type that may be used with the present invention is the "Dutch" auction. In the Dutch auction, the bid price is first set at a relatively high level by the auction manager. The bid price is lowered in intervals until a bidder accepts the price, at which time the auction ends with the bidder winning. Other known or suitable auction formats likewise may be employed as desired.

The vault **7**, if provided, stores information on the successful bids, the commercials shown, their bid price, etc. This information can then be gathered from the vault **7** and used to bill the entities whose commercials were viewed. This information gathering may be over a secure Internet connection (not depicted) or by other means well known in the art. If no vault is provided, billing for the viewed commercials can be provided by other means. For example, the information of what commercial was presented and the winning bid price may be sent over the Internet or another communications network. Similarly, this information may be stored locally at the receiver and gathered by a billing authority on a regular basis. Other methods of saving and gathering bid information are generally known.

FIG. 2 is a flowchart of the general process of an auction in accordance with the present invention. A commercial's agent preferably is configured to access a profile database **8** and gather information about the viewer and/or his/her viewing habits. For example, the agent might inquire if the viewer is male or female, the viewer's age, favorite type of television show, whether the commercial has been played previously, and other information.

Using this collected information, the agent is configured to determine and generate a price to bid **9** for the commercial time slot available. This determination may be as simple as bidding a fixed price, or it may be algorithmically complex, or any level of sophistication in between. As an example, if the program is a cooking show, an agent for a food seasoning

commercial may set a high bid price, particularly if the profile database indicates that the viewer often watches cooking programs. Similarly, the agent might set a low bid price, or even none at all, if the profile database indicates the viewer belongs to a non-preferred demographic group for the purchase of food seasoning. Generally, this process is

5   performed for each commercial associated with the commercial time slot.

Based upon the bids generated, the auction manager awards the time slot to the highest bidder **10**, unless otherwise programmed, and stores the winning bid information in the vault **11**.

FIG. 3 is a flowchart of a more detailed description of the auction of an embodiment

10   of the present invention. The auction of this embodiment begins **12** prior to the start time of the time slot to be auctioned. The auction could actually be held any time prior to the time slot being auctioned, although it is preferable to have the auction as near to the beginning of the time slot as possible, so long as sufficient time remains to allow seamless viewing of the commercial awarded the time slot. The later the auction, and thus closer to the start time of

15   the time slot, the more updated the information potentially available to the commercial agents and on which the agents may base the bid price.

In more detail, the auction manager, which preferably resides at the receiver, but may be a separate component, would load and execute the first commercial agent **13**. As previously noted, the agent may be as simple as a fixed bid price (a "trivial" agent) or it may

20   be a complex algorithm.

If the agent is not trivial (i.e., not a fixed bid price), the agent accesses the profile database and use the information therein to determine the bid price for the time slot being auctioned **14**. Furthermore, the information used by the agent to determine the bid price is not limited to the information retrieved from the profile database, but may include

25   numerous other information sources. As an example, the agent may access an online

programming guide to determine the type of program being viewed by the viewer. Similarly, the agent might consult a real-time clock maintained by the auction manager, or a global positioning system to determine geographic location, or information stored in the vault to determine if the commercial has been previously viewed by the viewer, or any combination of these and other information sources. Another possible information source is the auction manager itself. The agent's bid is then provided to the auction manager. The auction manager would preferably, although not necessarily, be configured to provide each competing agent with the amounts bid thus far.

The auction manager then loads the next commercial's agent **15**. If there is only one bidding commercial agent, this step is skipped. Otherwise, the newly-loaded agent accesses the profile database (or other information sources) and determines the bid for the time slot **16**, passing this to the auction manager, as above.

The auction manager repeats **17** the steps of loading the next agent **15**, and each agent determines the bid price for the time slot **16**.

When all commercial agents have determined their bid price for the available time slot, the auction manager will again poll each agent to determine if any elect to increase their bid in response to the bids of the other agents. This process would preferably repeat until no agent increases its bid. The auction manager then selects the winning bid and stores the winner's identification information and bid price in the vault **18**. The vault can be used at any subsequent time by the broadcaster or another party to determine how much has been bid by which advertisers, and hence, how much money is owed by the advertiser. Alternatively, the commercial awarded the time slot and the final bid price can be transmitted to the broadcaster or other billing authority at the time of selection if no vault is provided.

Finally, the commercial whose agent placed the winning bid is played during the time slot **19**.

It will be apparent to those skilled in the art that various modifications and variations can be made in the method and system of the present invention without departing

5   from the spirit and scope of the invention. Thus, it is intended that the present invention include modifications and variations that are within the scope of the appended claims and their equivalents.